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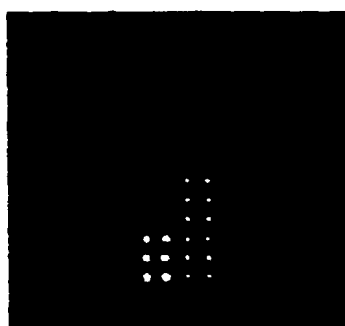
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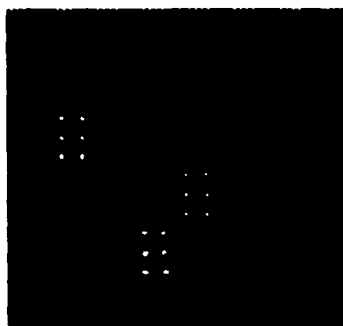
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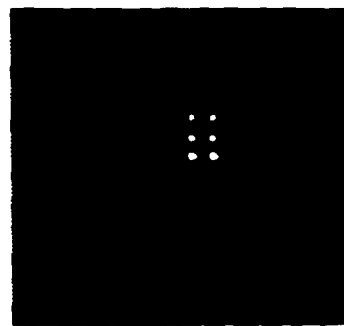
(54) Title: ANALYTICAL CHIP FOR DETECTION OF 16S-RRNA FROM CLINICALLY RELEVANT BACTERIA AND ANALYTICAL METHOD BASED THEREON



*Staphylococcus  
epidermidis*



*Staphylococcus  
aureus*



*Pseudomonas  
aeruginosa*

(57) Abstract: The invention is related to an analytical chip for the simultaneous determination of one or more different bacterial 16S-rRNA in a liquid sample comprising - an evanescent field measurement platform, e.g. an optical waveguide, as a solid carrier and - a plurality of specific recognition elements immobilized in discrete measurement areas of known location forming an array of measurement areas on said evanescent field measurement platform, wherein - a multitude (i.e. 2 or more) of different specific recognition elements is immobilized in discrete measurement areas for the recognition and detection of each different 16S-rRNA, different recognition elements being specific for different subsequences of the 16S-rRNA to be detected, which are not directly adjacent and not overlapping in the sequence of said 16S-rRNA, and - said analytical chip is operable for the detection of 16S-rRNA in the evanescent field of the evanescent field measurement platform, without an amplification (e.g. by polymerase chain reaction PCR or linear amplification "T7") of the polynucleotide sequences contained in the sample. The invention is also related to an analytical method based on the use of said analytical chip.



SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q G01N B01J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

MEDLINE, EPO-Internal, PAJ, WPI Data, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02 059348 A (TECHNOLOGY LICENSING CO LLC ;FOX GEORGE E (US); ZHANG ZHENDONG (US) 1 August 2002 (2002-08-01) page 30 -page 31, line 3; claims 4-6; table G	1-77
T	NELSON BRYCE P ET AL: "Label-free detection of 16S ribosomal RNA hybridization on reusable DNA arrays using surface plasmon resonance imaging." ENVIRONMENTAL MICROBIOLOGY. ENGLAND NOV 2002, vol. 4, no. 11, November 2002 (2002-11), pages 735-743, XP002245180 ISSN: 1462-2912 the whole document	1-77

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NELSON B P ET AL: "Surface plasmon resonance imaging measurements of DNA and RNA hybridization adsorption onto DNA microarrays." ANALYTICAL CHEMISTRY. UNITED STATES 1 JAN 2001, vol. 73, no. 1, 1 January 2001 (2001-01-01), pages 1-7, XP002245181 ISSN: 0003-2700 the whole document -----	1-77
A	SMALL JACK ET AL: "Direct detection of 16S rRNA in soil extracts by using oligonucleotide microarrays." APPLIED AND ENVIRONMENTAL MICROBIOLOGY, vol. 67, no. 10, October 2001 (2001-10), pages 4708-4716, XP002245295 ISSN: 0099-2240 table 1 -----	1-77

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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WO 02059348	A	01-08-2002	WO	02059348 A2	01-08-2002